

demonstrates that the structure is well known. For example, U.S. Pat. No. 5,048,260 to Raymond *et al.* demonstrates that one skilled in the art knew how to apply a polymer layer to a metal foil layer, at least as early as the patent's issue date of September 17, 1991, well before the filing date of the present application. At column 3, lines 34 – 37, Raymond describes a laminate for gum packaging having, in order, a layer of metal foil, a polyolefin layer, and a paper layer. Another example of a polymer layer adhered to a metal foil is shown in U.S. Pat. No. 5,268,230 to Edwards. At column 4, line 30, Edwards shows that a metal foil is a suitable substrate for a polymer extrusion. Raymond was previously submitted in an Information Disclosure Statement and has already been considered by the Examiner. A copy of Edwards is submitted herewith.

As for the alleged requirement that the metal foil be “on top of” the polymer layer, it is respectfully pointed out that claims 1 – 12 include no such requirement. Instead, the claims in question require, in order, a metal foil, a polymer layer, a paper layer and an electron beam cured layer. Whether the laminate is held with the electron beam cured layer oriented up or down is not relevant. If the claimed gum package laminate is held with the electron beam cured layer facing up, then the polymer is, in fact, “on top of” the metal foil. However, one can easily flip the gum package laminate over, in which case the opposite would be true. The claim covers the laminate under either contingency. It is requested that the rejection be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 112 ¶ 2

The Office Action includes a rejection of claims 1 – 12 as allegedly indefinite. In this regard, the Examiner has taken the position that it is not clear how the metal foil is actually present in claim 1, before the polymer layer, because it appears from the description that the metal foil is deposited after the polymer layer. This rejection appears to read a time-related element into claim 1. It is respectfully pointed out that claim 1 is directed to a laminate, without regard for how the laminate was produced. (Claims 23 – 25, directed to a method of forming a laminate, have been restricted out and withdrawn from consideration.) Therefore, it is irrelevant whether or not the metal foil was present before or after the polymer layer. The structure of the laminate after it has been completed is what is important.

As for the indication in the Office Action that the written description, at page 7, lines 7 - 8, states that the metal foil is deposited after the polymer layer, Applicants respectfully point out that the reference relates to the second of two distinct embodiments described in the application. Figure 1 and its description in the specification from page 3, line 26 through page 6, line 26 is

specifically related to the first embodiment. The second or alternative embodiment is shown in Figure 3 and specifically described in the specification from page 6, line 27, through page 7 line 31.

In the first embodiment, the foil, polymer and paper layers are laminated together. As already discussed above, processes for laminating the layers, such as extrusion lamination, are well known. An electron beam curable coating is then applied to the paper layer of the laminate (see page 4, lines 29 – 31) and cured. Thus, the structure shown in Figure 1 is produced: foil layer 12, polymer layer 14, paper layer 16, optional ink layer 18 and electron beam cured layer 20. This is the structure claimed in claim 1, less the optional ink layer 18.

The reference in the Office Action to page 7, lines 7 and 8, is applicable to the second embodiment of the invention, claimed in claims 13 – 22. The second embodiment involves depositing a thin inorganic layer 124 onto a polymer layer 114 by metallizing the polymer layer 114 through a vacuum deposition process or by coating an oxide layer thereon.

Based on the foregoing, it is clear that claim 1 recites a definite structure according to the first embodiment described in the specification, specifically a laminate comprising in order: a metal foil layer, polymer layer, a paper layer, and an electron beam cured layer. Therefore, the way in which the metal foil fits in the claimed structure is clear and it is requested that the rejection of claims 1 - 12 under 35 U.S.C. § 112 ¶ 2 be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a)

The Office Action includes a rejection of claims 1 – 14 and 19 – 22 under 35 USC § 103(a) based on the combination of Steeves and Oshima. Kjelgaard is added to the combination with reference to dependent claims 15 – 18. The primary combination of Steeves and Oshima is respectfully traversed because Oshima is non-analogous art and, even if it were analogous, there is no suggestion to combine it with Steeves, absent impermissible hindsight.

Non-Analogous Art

In order to rely on a reference as a basis for rejection of a claim, the reference must be analogous prior art. MPEP § 2141.01(a). The Federal Circuit has identified two criteria for determining if an art reference is relevant: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the art is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Clay*, 966 F.2d 656, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992).

The Office Action indicates that Steeves and Oshima are analogous art because both references are in the same field of endeavor, such as packaging laminates. That characterization is respectfully traversed. The inventors' field of endeavor is the production of gum packaging. (See page 1, line 1 of the specification.) Oshima is not related to packaging of any sort. Rather, Oshima describes a heat transfer cover film allegedly useful for protecting images and characters that have been heat transferred to an identification card. At column 1, lines 16 – 30 Oshima confirms that the field to which it relates is heat transfer techniques and/or production of identification cards using such techniques. Oshima simply has nothing to do with packaging, let alone gum packaging.

However, a reference that is not in the field of gum packaging may be considered relevant art if it is reasonably pertinent to the problem faced by the inventors, which was the difficulty of more economically producing a packaging structure suitable for gum packaging and also free of mobile additives, which could otherwise migrate and cause delamination of the package or interfere with a metallized layer. (See page 2, lines 20, 30 – 32 of the specification.)

Oshima is not reasonably pertinent to the problem faced by the present inventors. Oshima is not pertinent to the challenge of reducing production costs of packaging structures because Oshima describes a method of producing identification cards, which would be economically unfeasible if applied to the production of packaging material. The Oshima process involves forming an image on a card substrate using a heat transfer sheet having at least a substrate with two layers of thermally migratable dye, and then overlaying and heat transferring a pre-formed heat transfer cover film having a transfer substrate, an electron beam cured resin layer releasably formed on the substrate, and a heat-sensitive adhesive. The material cost alone of using such a process to produce packaging material would be prohibitive. Moreover, Oshima mentions nothing about the problem of mobile additives in a laminate structure and, thus, would not provide any insight into solving the problem of delamination caused by the additives. Because Oshima is neither in the field of endeavor of the present inventors nor reasonably pertinent to the problem faced by the inventors, Oshima is not analogous art and cannot be properly combined with Steeves to form a rejection under 35 U.S.C. § 103.

No Suggestion to Combine Steeves and Oshima.

Even if Oshima were relevant art, it can not be combined with Steeves to form an obviousness rejection because the cited prior art provides no suggestion or motivation to do so.

The office action indicates that Steeves shows a packaging laminate having a metal foil of aluminum, a polymer layer and a paper layer. Applicants have already indicated, by way of background in the application and in reference to Raymond above, that a metal foil extrusion laminated to a paper layer by a polymer layer is known.

The Office Action further indicates that Steeves teaches the curing of a coating with an electron beam for the purpose of providing a smooth and uninterrupted resin film. However, the reason Steeves desires to have the smooth resin film is to provide a substrate for metallization. If any analogy can be drawn between Steeves and the structure of claim 1 in the present application, the electron beam cured layer of Steeves would be the polymer layer disposed between the metal foil and the paper layer. Steeves includes no suggestion to provide an additional electron beam cured layer on the opposite side of the paper layer.

The Oshima reference describes a heat transfer cover film including a heat-sensitive adhesive coated onto an electron beam cured resin, which has been releasably formed on a transfer substrate. The heat transfer cover film is applied to an identification card by placing the heat-activated adhesive in contact with an image formed by heat transfer, and transferring the heat transfer cover film onto the card. One skilled in the art of packaging structures would have no motivation to look to such a heat transfer process in trying to find a new gum packaging structure. There is no suggestion in the art to look to such a process, and Oshima itself contains no indication that the heat transfer cover film would be useful in the field of gum packaging.

Instead, the Examiner has used impermissible hindsight to carve out a specific feature from the Oshima reference (an electron beam cured layer) in order to apply that feature to the packaging art. Without a basis to show that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed, the invention is not obvious. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-8 (Fed. Cir. 1998). Only by using the present application as a template for piecing together features from two different references (from very different fields), has the present rejection been formed. Such an approach is impermissible. Thus, it is requested that the obviousness rejection be reconsidered and withdrawn.

New Claims

New claims 26 and 27 have been added to the application. The claims include subject matter similar to that of original claims 12 and 22, and should not necessitate a new search by the Examiner. Support for the new claims can be found in the specification for example, at page 5, lines 15 – 28. The new claims add no new matter to the application. The prior art cited in the Office Action does not render obvious the subject matter of the new claims. Steeves provides no suggestion to incorporate processing additives used in high speed in-line processes, such as the slip agents recited in claims 12, 22 and new claim 27. In addition, it would not have been obvious to modify Steeves' electron beam cured layer by including such additives because the additives would adversely affect the gloss sought by Steeves in metallizing the electron beam cured layer. Moreover, such processing additives would likely cause Steeves' metallized layer to flake-off because, as indicated in the present application, such processing additives are known to interfere with metallized layers.

As previously discussed, Oshima is not properly combinable with Steeves, and even if it were, there is no suggestion to make the combination. Applicants acknowledge that Oshima states that images can be improved in terms of slip properties, gloss, light fastness, weather resistance and whiteness by incorporating various additives. However, as already discussed, the images of Oshima are formed on identification cards through heat transfer. The reasons Oshima mentions such additives relate to improving the quality of the images. There is no motivation to use an electron beam cured layer in a gum packaging structure to decrease the cost of production or to solve problems related to high speed in-line processing of the packaging.

CONCLUSION

It is believed that the § 112 rejections have been overcome and that all of the pending claims are patentable over the cited art. Therefore, it is respectfully requested that the present rejections be reconsidered and withdrawn. If direct communication will expedite the allowance of the application, the Examiner is invited to telephone the undersigned attorney for applicants.

Respectfully submitted,

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